

# Mountain View Mobile Home Park

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## ABSTRACT

*This ‘reality’ case pertains to one of the largest mobile home parks in the Carolinas. In 2003, the owner of the Mountain View & Vista Mountain Mobile Home Park passed away. The estate executrix hired an appraisal company to value the property. The body of the case presents three standard methods for valuing the property based on the actual appraisal report: the Cost Approach, the Income Approach, and the Sales Comparison Approach. The case then introduces the Investment Analysis Approach, which models future after-tax cash flows, considers the method of financing, and allows for year to year changes in revenues and expenses. This fourth technique complements the valuation provided by the formal appraisal. One suggested teaching strategy is to split the class into sets of matched “buyers” and “sellers” to extract data from the case and perform their independent Investment Analysis. The groups can then take opposite sides as “buyers” and “sellers” and try to negotiate a mutually agreeable price for the property.*

**Keywords:** Real Estate, Capital Budgeting, Appraisal, Valuation, Investment Analysis.

## BACKGROUND INFORMATION

A prominent businessman in the Carolinas passed away in 2003 after a short illness. Mr. William E. Klein Jr. had been a local real estate developer for the past 20 years. One of the biggest assets in the Klein portfolio was a mobile home park located in the greater Charlotte area. The Mountain View & Vista Mountain Mobile Home Park was one of the largest in the Carolinas and was the last that could be built in the area due to changes in the zoning laws. The estate had hired a professional real estate appraisal company to estimate a market value to help sell the property.

The surviving family members lived out of state and were not willing to relocate to run it. Mr. Klein had a single employee, the park manager, who was in charge of rent collection, eviction of problem tenants, and the general maintenance of the property. The executrix, Mrs. Jane Andrews, was of the opinion that the manager was not devoting enough of his attention to the collection of the rents. As she read through the books and rent rolls, she noticed that several of the tenants were significantly behind in their payment. Mrs. Andrews also believed that the manager was not running the park as efficiently as it should be run. For example, there appeared to be maintenance problems with both the water treatment and the septic system which had not been addressed. The essential elements of the appraisal report are reproduced below.

## THE APPRAISAL REPORT

The Mountain View and Vista Mountain Mobile Home Park was located on the border between North and South Carolina. The summary of the important facts of the subject property are shown in Exhibit A. The appraisal was performed as a *Complete Appraisal*, which signifies that it was in compliance with Uniform Standards of Professional Appraisal Practice (USPAP). The report was prepared as a *Self-Contained Report*, which means that it contained all the information significant to the solution of the appraisal problem.

The property consisted of 244 rental sites for mobile homes with improvements such as paving, patios, walks, and connections to utilities. The appraisal did not include any of the mobile homes on the sites, which were owned by the lessee (the tenant or renter). Because the ownership interest was held by the park owner while the

right of use and occupancy was held by the lessee as specified in the lease, the property was appraised as a *Leased Fee Estate*.

In 2003, the area of Mountain View Park was experiencing strong population growth but increased unemployment due to lost manufacturing jobs. The mobile home park had suffered a decline in occupancy, which had fallen to 150 sites by 2003. Because the short-range forecast for the economy was not promising, the market value was estimated “*As Is*”, as opposed to a prospective future value based on a stabilized higher level of occupancy due to improvements in physical rehabilitation or management.

**Exhibit A: Summary of Important Facts and Conclusions**

Property Location	East and west sides of Woodend Road, York County, South Carolina and Gaston County, North Carolina
Property Owner	Jane Andrews
Date of Report	September 5, 2003
Effective Date of Value	August 25, 2003
Purpose of Appraisal	Estimate Market Value “As Is”
Type of Appraisal	Complete Appraisal
Type of Report	Self-Contained Report
Property Rights Appraised	Leased Fee Estate
Zoning	Various – See Zoning Section
Land Area	121.92 Acres.
Improvements	The subject property is currently improved with a 244-site mobile home park with paved interior streets. Of the 244 sites, 150 are currently rented. Our appraisal does not include any value to the mobile homes. The valuation consists only of the land, site improvements and amenities necessary for the operation of the park.
Present Use	Manufactured Housing Park
Highest and Best Use	Manufactured Housing Park
Appraisal Procedures Required	Cost Approach Income Approach Sales Comparison Approach
Value Estimated by Cost Approach:	\$2,105,000
Value Estimated by Income Approach:	\$2,201,000
Value Estimated by Sales Comparison Approach:	\$2,260,000
Final Prospective Market Value on August 25, 2003	\$2,225,000

Besides a physical inspection of the site and the neighborhood, the appraisers examined a number of sources for estimating the potential of the subject property. A profile of the region considered demographics, transportation, employment opportunities, income levels, and healthcare, education, and cultural facilities. The positive items for the area included excellent transportation services, above average population and income statistics, and cultural opportunities in nearby Charlotte. The single largest negative element in the report was the above average unemployment rate due to stagnant economic growth. Despite a near-term pessimistic short-range outlook for the area, the potential for the longer term was described more optimistically. Modest growth was anticipated, with increasing real estate values.

Land use in the neighborhood included both vacant and agricultural land and low and middle-income single-family residential homes. The subject property was developed in the 1980’s, and regular maintenance has kept the facility in good condition. Each site can accommodate a typical singlewide manufactured home, with adequate utilities such as electrical, telephone, and television services. The park was served by five community wells and each site contained an individual septic system.

The appraisal mentioned three possible uses of the property. The first was to continue the current operation as a rental mobile home park. The second was to take the 244 site park and scale it down to a smaller operation.

The third possible use was to convert the facility to a subdivision, with each site to be marketed and sold individually. This last suggested use would require substantial additional investment. Because the present infrastructure, roadways, and other improvements were in good condition and support the use of the whole property as a mobile home park, the appraisal report's final conclusion was that the highest and best use of the subject property was to continue operations as it was in 2003.

Three appraisal methods were utilized in the analysis. The Cost Approach estimates the cost of buying land and replicating the present facilities of the subject property. This cost, after adjusting for the depreciation of the subject property, serves as the basis for estimating market value. The Income Approach estimates the future income of the property. The capitalized income stream serves as the basis for estimating market value. The Sales Comparison Approach uses the sale price of comparable properties to the subject property as the basis for estimating market value. Each of these approaches is detailed below.

**The Cost Approach:**

1. Estimate the land value as though vacant and available.
2. Estimate reproduction or replacement cost of the improvements.
3. Estimate amount of accrued depreciation and adjust the replacement cost.
4. Combine the land value with the adjusted replacement cost of improvements.

Exhibit B shows data from four recent sales of comparable properties which was used to estimate the value of the land. The sales price was adjusted to reflect price per acre as well as to reflect superior or inferior location, access and visibility, and availability of utilities. An additional adjustment for size, beyond measuring everything on a per acre basis, was also made to factor in economies of scale.

**Exhibit B: Land Comparison Chart**

Sale Number	1	2	3	4
Date of Sale	2/20/03	8/26/02	5/6/01	3/26/01
Size - Acre	62.58	202.49	231.66	65.00
Sales Price	\$936,800	\$2,700,000	\$556,264	\$360,795
Price Per Acre	\$14,970	\$13,334	\$2,401	\$5,551
Property Rights				
Financing				
Condition of Sale				
Time				
Adjusted Price/Acre	\$14,970	\$13,334	\$2,401	\$5,551
Adjustments:				
Location	-25%	-25%		-10%
Size/Shape	-10%	+10%	+20%	-10%
Topography				
Access/Visibility	-20%	-20%		
Zoning				
Utilities	-10%	-10%	-10%	-10%
Total Adjustments	-65%	-45%	+10%	-30%
Adjusted Value/Acre	\$5,240	\$7,334	\$2,641	\$3,886

The adjusted land values ranged from \$2,641 to \$7,334 per acre with a mean (median) value of \$4,775 (\$4,563). The appraiser report concluded that a value of \$4,500 was appropriate. The costs of replicating the improvements of the subject property were obtained from the Marshall Valuation Services published by Marshall and Swift. These costs are shown in Exhibit C. The adjusted cost to replicate all the improvements of the subject property was estimated at \$6,023 per site. This amount did not include the developer's profit for undertaking the project. The report allowed for a developer's fee of 15%, which was stated explicitly to be applied to the improvements only and not to the cost of the land.

The subject property was considered in good condition with an average chronological age of five years with an estimated economic life of sixty years. The report estimated the depreciation of the present improvements at 8% (5/60), and concluded that the final value using the Cost Approach was \$2,105,000. This calculation is summarized in Exhibit D.

**Exhibit C: Summary of Marshall Valuation Service Cost Estimates (per site)**

Item	Average Quality
Engineering	\$585
Grading	505
Street Paving	855
Patios and Walks	645
Sewer	705
Water	580
Gas	310
Electrical	920
Buildings (office, maintenance shop, etc)	1,645
Miscellaneous	565
Total	\$7,315
Multiplier for Number of Spaces	0.91
Current Cost Multiplier	1.04
Local Multiplier	0.87
Adjusted Cost	\$6,023 <sup>1</sup>

<sup>1</sup>Adjusted Cost Obtained as Follows:  $(\$7,315)(0.91)(1.04)(0.87) = \$6,023$

**Exhibit D: Cost Approach Summary**

Reproduction cost of Mobile Home Park: (244 sites x \$6,023/pad)		\$1,469,612
Plus Developer's Profit: (1,469,612 x 15%)		<u>\$220,442</u>
Total Project Cost		\$1,690,054
Less Depreciation		
Physical - Curable	\$0	
Physical - Incurable	0	
Site Improvements (\$1,690,054 x 8%)	\$135,204	
Functional	0	
Economic	0	
Total Depreciation		<u>\$135,204</u>
Depreciated Value of Improvements		\$1,554,850
Plus Estimated Land Value		<u>\$550,000</u>
Final Value by Cost Approach		\$2,104,850
Rounded to		\$2,105,000

#### The Income Approach:

1. Estimate gross potential income based on rental rates from comparable mobile home parks as well as the subject property.
2. Estimate expenses for the subject property.
3. Calculate the estimated net operating income for the subject property.
4. Obtain net operating income and sales data from comparable properties which have recently sold.
5. Extract capitalization rate from comparable properties, and use the rate to convert subject property net operating income into a market value.

Exhibit E shows the income statement for the subject property for 2002. Although the 2002 income statement is useful as a check, it is not the sole basis for the Income Approach appraisal. Since 2002, the subject property had experienced greater vacancy. At the time of the on-site inspection, only 150 out of 244 lots were

rented out. Further, potential expenses need not follow past patterns. The appraisal report cited two nationwide surveys of mobile home expenses and used a combination of the subject property's history and the survey results to check that the estimates for expenses were within the range for comparable data.

Exhibit F shows adjusted rental rates for four comparable properties. Based on this data and the actual lot rents of the subject property, the report concluded that a monthly rent of \$180 per lot is within range of market rates. The projected net operating income (NOI) for the subject property is shown as Exhibit G. With the 2003 occupancy level of 150 lots, an annual gross potential rent of \$324,000 was projected. Collection loss of 5% resulted in an effective gross income (EGI) of \$307,800.

**Exhibit E: Income Statement for Subject Property, 2002**

		% EGI
Site Rental	\$369,009	
Other Income	0	
Effective Gross Income (EGI)	\$369,009	100.0%
Admin. Expenses		
Management Fee	26,764	7.3%
Administrative Wages and Costs	18,654	
Utilities	5,693	
Maintenance	25,661	
Real Estate Taxes	9,336	
Property Insurance	12,660	
Operating Expenses	98,768	26.8%
Net Operating Income	270,241	73.2%

**Exhibit F: Summary of Rental Data for Comparable Properties**

Mobile Home Park Name	Twin Lakes	Chuck's	Stateline	Berkley Oaks
Monthly Rent Rate	\$200	\$180	\$175	\$180
Utilities				
Effective Rental Rate	\$200	\$180	\$175	\$180
Adjustments:				
Location	-5%			
Amenities				
Quality	-5%			
Adjusted Rental Rate	\$180	\$180	\$184	\$180

Exhibit G also shows the itemized operating expenses, along with each item's percentage of the EGI. Management fee of \$18,468, or 6% of EGI, is less than the equivalent line item of \$26,764 or 7.3% of EGI as reported in the actual income statement for 2002. This fee was paid to the owner as compensation for the off-site managing of the property

The management fee percentage was reduced by the appraisers to bring it in line with a more typical 4% to 6% as indicated by their national survey of mobile home park fees and expenses. This was in an addition to administrative wages, which is essentially the salary of the on-site manager for the day-to-day operations of the park. Other operating expenses for utilities, maintenance, taxes, insurance, and an amount for reserves brought the total operating expenses to \$93,804 and the NOI to \$213,996.

Net operating income was converted to a dollar value for the business through the use of a direct capitalization rate extracted from the net income and sales price data of recent sales of similar mobile home parks in the area. Exhibit H shows four comparable mobile home park sales. Panel 2 of this exhibit shows that the average capitalization rate for these properties, calculated as NOI to sales, was 10.06% and ranged from 9.15% to 11.12%.

Because the subject property had a lower occupancy rate from the comparable parks and was in a more rural location, the risk associated with the subject property was higher. The report concluded that an appropriate rate for capitalization for the subject property was 10.75%. Using the NOI of \$213,996 from Exhibit G and dividing by 0.1075 resulted in a direct capitalization value of \$1,990,660.

**Exhibit G: Projected Net Operating Income for Subject Property**

			% EGI
Gross Potential Rent (GPR)		\$324,000 <sup>1</sup>	
Collection Loss (5% of GPR)		16,200	
Effective Gross Income (EGI)		\$307,800	100.0%
Admin. Expenses			
Management Fee		18,468	6.0%
Administrative Wages and Costs		18,750	6.1%
Other Operating Expenses:			
Utilities		7,500	2.4%
Maintenance		26,250	8.5%
Real Estate Taxes		9,336	3.0%
Property Insurance		9,750	3.2%
Reserves		3,750	1.2%
Total Operating Expenses		93,804	30.48%
Net Operating Income		\$213,996	69.52%
Capitalization Rate	10.75%		
Value by Direct Capitalization		\$1,990,660	
Plus Excess Land Value		\$210,000	
Final Value by Income Approach		\$2,200,660	
Rounded to		\$2,201,000	

<sup>1</sup>Gross Potential Rent: (\$180 rent per month per site)(150 sites)(12 months) = \$324,000

This value is attributed only to the income producing section of the mobile home park. Because approximately 38 % of the sites were unoccupied, 38% of the \$550,000 total land value was deemed as excess land value. This yielded an additional value of approximately \$210,000 which was added to the \$1,990,660. As shown in Exhibit G, the estimated value for the Income Approach was rounded to \$2,201,000.

As mentioned above, the owners also received additional fees as off-site managers of the park. While it does serve to separate returns on labor as opposed to returns on capital, this extra cash flow increases the total returns to the owner above the capitalization rate.

**Exhibit H: Comparable Mobile Home Park Sales****Panel 1: General Information on Comparable Sales**

No.	Name	Location	Sale Date	# of Sites	Land Area (acres)
1	Meadowbrook Estates	Kernersville, NC	9/2001	94	31
2	Timberline	Charlotte, NC	2/2000	237	57
3	Stoney Brook North	Raleigh, NC	7/2000	184	34.45
4	Franklin Village	Asheboro, NC	1/2000	292	86.01

**Panel 2: Effective Gross Income, Net Operating Income, and Sales Price, and Capitalization Rates of Comparable Sales**

No.	Name	Effective Gross Income (EGI)	Net Operating Income (NOI)	Sales Price	Capitalization Rate (%) (NOI/Sales Price)
1	Meadowbrook Estates	\$204,949	\$148,490	\$1,335,000	11.12 %
2	Timberline	\$613,575	\$432,296	\$4,590,000	9.42%
3	Stoney Brook North	\$683,500	\$478,032	\$5,221,930	9.15%
4	Franklin Village	\$642,057	\$494,754	\$4,749,964	10.42%
	Average				10.06%
	Range				9.15% – 11.12%

The Sales Comparison Approach:

1. Comparable mobile home parks are examined. For each, an effective gross income multiplier (EGIM) is calculated as the ratio of the sales price over gross income.
2. For each comparable sale, NOI as a percentage of EGI is calculated.
3. Using each comparable property in turn, the EGIM of the subject property is estimated so that it is in the same proportion to the EGIM of the comparable property as their respective NOI/EGI ratios.

This calculation is shown in Exhibit I. The adjusted EGIM of the subject property ranged from 6.25 to 7.59 with an average value of 6.98. Stating similar risk related arguments as was stated in the Income Comparison Approach, the appraisers selected an EGIM value of 6.66.

**Exhibit I: Effective Gross Income Multiplier Analysis**

No.	Property Name	Effective Gross Income Multiplier (EGIM) <sup>1</sup>	NOI as a percent of EGI	Adjusted EGIM of Subject Property (calculation)	Adjusted EGIM of Subject Property (result)
	Subject Property	N/A	69.52%		
1	Meadowbrook Estates	6.51	72.45%	$(69.52/72.45)*(6.51)$	6.25
2	Timberline	7.48	70.46%	$(69.52/70.46)*(7.48)$	7.38
3	Stoney Brook North	7.64	69.94%	$(69.52/69.94)*(7.64)$	7.59
4	Franklin Village	7.40	77.06%	$(69.52/77.06)*(7.40)$	6.68
	Average				6.98
	Range				6.25 – 7.59

<sup>1</sup>EGIM is calculated as Sales Price/Gross Income

The appraisal report had previously calculated the annul EGI of \$307,800 based on \$180 rent per month and 150 units rented less 5% collection loss. Multiplying the EGIM of 6.66 with the EGI of \$307,800 yielded the implied sales price for the subject property of \$2,049,948. Adding the aforementioned \$210,000 for excess land and rounding, the Sales Comparison Approach yielded an estimate of \$2,260,000.

The three valuation estimates are repeated in Exhibit A. They were reconciled in an overall market value estimate of \$2,225,000. This summary estimate reflected the greater weight given by the appraisers to the Income Approach and the Sales Comparison Approach over the Cost Approach.

## THE INVESTMENT ANALYSIS APPROACH

Another method for estimating values of income producing real estate is known as the Investment Analysis Approach. This approach models future after-tax cash flows, considers the method of financing, and allows for year to year changes in revenues and expenses. The Investment Analysis Approach has the potential to complement the valuation provided by the formal appraisal. Although it is not part of the appraisal, much of the data required for this fourth method can be extracted from the information contained therein. The Investment Analysis Approach differs from the appraisal methods in a number of different ways:

1. It is based on *pro-forma* income statements, where future net income can vary year to year, depending on gross income and expense. The determinants of both income and expenses can vary over time based on numerous forecasts for management, economic conditions, and potential competitive forces.
2. The emphasis for valuation is based on after-tax cash flows rather than net income. For after-tax cash flows one needs to consider depreciation.
3. The method of financing is incorporated in the analysis. This makes the resulting valuation specific to a particular buyer. If the buyer borrows part of the purchase price, interest payments will reduce taxable income. The use of leverage will also increase both expected return and the risk of the investment.
4. Tax rates are also buyer specific.

Although the appraisal clearly stated that the valuations were determined independent of the method of financing, a marketability study was included as part of the report. This section provided a number of details about potential financing of established mobile home parks by banks in the Charlotte area in 2003. Typical loan-to-value ratios were 50% to 75%. Fixed interest rates ranged from 8.5% to 10.5%, and amortization rates ranged from 10 to 30 years. Variable interest rates for mobile home parks were also available with interest rates of 200 points over five-year treasury issues. Generally, a shorter amortization with a lower loan-to-value ratio will result in the lowest interest rate. Variable interest rates will also reduce the short-term interest expense although there is always a chance that the rate will increase.

If a private individual purchases the property, even at a 50% loan-to-value ratio, he or she would need to make an initial investment in the neighborhood of one million dollars. One could easily assume that this individual would be in the highest income tax bracket. In an Investment Analysis, one needs to select a holding period for the investment, after which it is sold. If the future selling price is above the purchase price, capital gains are incurred and taxed. The amount taxed would be on the gain above the original purchase price, excluding the amount spent on marketing the property. There is also a tax on the recaptured depreciation, which is the amount between the original purchase price and the book value of the property when you sell.

There are a number of other variables which could dramatically change the result of an Investment Analysis. The first crucial determination is the holding period for the investment. The discount rate used to convert cash flows to a net present value (NPV) is also crucial. There are other variables which need to be estimated as well: the growth in available rental units, the growth in rent fees, the growth in operating costs, and the growth of the value of the income property between purchase and eventual sale. Collection loss and administrative expenses can also change year to year.

The Investment Analysis method is similar to the methods corporations would use to evaluate investment projects. The outcome is sensitive to a large number of assumptions which may affect the future cash flows for the property. The characteristics of the potential buyers, including their assumed holding period for the property, their personal tax situation, and their desired level of financing, will also affect the outcome of the valuation. The flexibility of bringing in these factors allows for a broader view of the income producing value of the property, which will complement the valuation based on the traditional methods provided by the formal appraisal.

## **MOUNTAIN VIEW MOBILE HOME PARK: THE TEACHING NOTE**

This case pertains to a real life situation where after the owner of the Mountain View and Vista Mountain Mobile Home Park passed away, the estate executrix hired a professional real estate company to value the property. The case presents all relevant material in the appraisal to enable students to follow the justification for all three valuation methods; the supporting tables in the assessment are included in the case as exhibits. Although it is not explicitly stated in the case, the implication is made that an Investment Analysis would provide both sellers and buyers a better picture of the income potential, and consequently, the ultimate value of the property.

## **CASE PURPOSE AND INTENDED AUDIENCE**

The case purpose is to introduce students to the valuation techniques which are considered standard in formal real estate appraisals and further, to introduce the idea of treating a real estate venture as a specialized case of a valuation of any business or business project undertaken by either an individual or a corporation. For a successful completion of the Investment Analysis, students will need to extract information related to the subject property from the appraisal. They will also need to be familiar with the capital budgeting techniques used to evaluate business projects. The case supports an in-depth examination of all four valuation methods and leads to a good understanding of the strengths and weaknesses of each, which in turn, is required for weighing each valuation in a final reconciliation. This last step is not an exact science, and the assumptions behind each valuation method can account for the divergence between estimated values.

The intended course for this case is a Financial Management or Corporate Finance class, or a specialized course in Capital Budgeting or Real Estate Investing. The case is equally suitable for an undergraduate or a



graduate class, because the amount of preparation, depth of analysis, and quality of deliverables could vary according to the course level. An ideal class for the case would have covered capital budgeting concepts in earlier sessions, using a managerial or corporate finance textbook like Gitman (2009), followed by a lecture on real estate investments using material similar to the web chapter on real estate investments in Gitman and Joehnk (2007). The case would then serve as a sectional summary case, which pulls together concepts both from capital budgeting as well as real estate analysis.

This case is also ideal for a pure capital budgeting class using a text similar to Bierman and Schmidt (1993), which already has end-of-chapter cases. Occasionally, it is useful to substitute an independent case for the included textbook case, or perhaps focus one case specifically on real estate investments. Prior student preparation should include a good understanding of accounting income statements, the difference between net income and cash flow, mortgage amortization, income tax considerations with regard to depreciation and the deductibility of interest payments, present value concepts, and capital budgeting decisions based on net present value (NPV) and internal rate of return (IRR). Familiarity with spreadsheets to set up capital budgeting problems would be very helpful. Ideally, a number of smaller homework problems would have been worked out using spreadsheets before attacking the case.

1. Understand the standard methods of valuation used in real estate appraisal, and in particular, to understand the assumptions behind each method and their effect on the resulting valuation.
2. Understand how an Investment Analysis differs from the standard real estate appraisal methods and acquire the skills to extract or estimate additional data required for an Investment Analysis.
3. Recognize special considerations for a real estate investment in the creation of a cash flow analysis.
4. Develop the skills to model the cash flows and NPV on a spreadsheet so that sensitivity analysis can easily follow.

The learning objectives above are specific to the case and are dependent on other learning objectives that need to be met either as preparation for doing the case or developed concurrently as the case is analyzed. These include:

1. Create an income statement from data which supports revenues and expenses.
2. Create an after-tax cash flow table which captures the effect of depreciation and interest payment deductibility on a year by year basis, as well as the cash flow from the sale of the property net of both capital gains and depreciation recapture taxes.
3. Combine yearly cash flows into single summary measures such as NPV or IRR.

If the suggested teaching plan below is followed, another learning skill may be added to the list:

1. Successfully negotiate a contract which meets your investment objective.

### **TEACHING PLAN AND PEDAGOGICAL BENEFITS**

One suggested teaching plan is to split the class into sets of matched groups. For each set there is a group that is playing the role of the seller, and another group that is playing the role of the buyer. Each group, both buyer and seller, is encouraged to perform an independent Investment Analysis from the prospective buyer's point of view.

After they do this, presumably in multiple sessions outside the classroom, the matched groups come together in a "negotiation" session to see if they can agree on a selling price agreeable to both parties. It is during this process that the two groups could essentially check each others assumptions and calculations. The process of negotiating for the best price, in this case, is more about coming to some understanding of the market value of the property rather than focus on negotiation skills.

The pedagogical advantage of the negotiation session is that two groups come together and allow for limited new insight into possible case solutions and critique of prior work. Since each negotiation session only doubles the number of students in each group, and since these sessions include only their peers, it will tend to encourage wider participation. The instructor can be available to each negotiation session as needed.

After the negotiation session, the teaching plan could follow alternative paths based on instructor's preference and time constraint. One possibility is the nomination of a representative, or representatives, from each set of matched buyer and seller group to make an oral presentation to the rest of the class.

### **SUGGESTED STUDENT INSTRUCTIONS AND DELIVERABLES**

A set of instructions could be stated as follows: Consider the appraisal report of the Mountain View Mobile Home Park as presented in the case. Using the data summarized in the report and augmented by other information found in the case or uncovered by your own research, each group of buyers and sellers should prepare an Investment Analysis as described in Gitman and Joehnk (2007). Such an Investment Analysis is comprised of:

1. A Pro-Forma Net Income Statement for 2004 through 200x, depending on your assumptions for the number of years the buyer will hold the investment. Assumptions of gross and net rental revenues and expenses may vary year to year as well as from the income statement in the formal appraisal.
2. An Amortization Schedule for the appropriate interest rate, loan amount, and term of the mortgage for the property.
3. A Depreciation Schedule for an assumed depreciation for the non-land portion of the property.
4. After-Tax Proceeds for selling the property after the assumed holding period. This should include assumed price appreciation of the property, assumed selling expenses and taxes on both capital gains as well as recaptured depreciation.
5. After-Tax Cash Flow Table, showing cash flows for every year of the assumed holding period, based on a purchase price of the property, a marginal tax rate, and an appropriate discount rate. The capitalization rates used in the assessment can be used as a starting point for the discount rate.

Estimated hours for students to prepare a rough copy of these tables could range from 10 to 20 student hours, including individual as well as group work. The actual number of hours will vary depending on the level of preparation the instructor will provide the class as a whole. One way to significantly reduce the case preparation hours for individual groups is to spend class time discussing the large number of decisions which are required to successfully prepare an Investment Analysis.

The instructor for the case can decide if some of the assumptions for investments analysis should be predetermined and followed by all the groups or if it is more appropriate to have a divergence of assumptions which will lead to a variety of answers. For an introductory undergraduate class where more guidance is required, it may be better for the instructor to provide some characteristics of the buyer, such as his or her income tax bracket, preferred method of financing, and desired holding period for the investment.

For a more advanced class, a variety of outcomes will clearly demonstrate that different assumptions will result in different estimates for market value. Buyer and seller groups could participate in a short meeting prior to the analysis, where buyers reveal some of this information to the sellers. If this approach is followed, the negotiation session may go a bit smoother.

An ideally prepared class should already be familiar with capital budgeting techniques, including specialized concerns regarding real estate, as well as the standard methods of real estate appraisal. Both of the latter skills are summarized in Gitman and Joehnk (2007). This could be followed by the optional class discussion of the case. A few out-of-class meetings for each group, interspaced with individual work, should produce a rough draft for an Investment Analysis and an appropriate purchase price to support a positive NPV project.

After one or two weeks on the case, it is suggested that the buyer and seller group counterparties meet during classroom time in a centralized location where each set of groups could hold their individual negotiation session, and where the instructor could roam from group to group as needed. Based on instructor preference, each group would then be responsible for a formal report, as well as possible oral presentations before the whole class in a subsequent session. Suggested additional hours for the formal report could range from two to four hours.

**Table 1: Pro-Forma Net Income Statement**

year:	2004	2005	2006	2007	2008
number of years into project	1	2	3	4	5
Units	150	152	154	156	158
Average Rent per Unit (monthly)	180	184	188	192	196
Gross Potential Rental Revenue	324000	335616	347424	359424	371616
Less Non-Payment	-16200	-16781	-17371	-17971.2	-18581
Effective Gross Income	307800	318835	330053	341453	353035
Less Management Fee	-18468	-19130	-19803	-20487.2	-21182
Less Administrative Wages	-18750	-19422	-20105	-20800	-21505
Other Operating Expenses:					
Utilities	7500				
Maintenance	26250				
Real Estate Taxes	9336				
Property Insurance	9750				
Reserve	3750				
Less Other Operating Expenses	-56586.00	-58284	-60032	-61833.1	-63688
Net Operating Income	213996	221999	230112	238333	246660

**Table 2: Amortization Schedule**

Loan to Value	50.00%			
Amortization	10 years			
Annual Interest	7%			
Amount Financed	1000000			
Monthly Interest	.5833333%			
Total Payments	120			
Monthly Payment	11,610.85			
Annual Payment	139,330.18			
Month	Beginning Principal	Proportion of Each Payment:		Annual Interest
		Interest	Principle	
1	1000000.00	5833.33	5777.51	
2	994222.49	5799.63	5811.22	
3	988411.27	5765.73	5845.12	
4	982566.15	5731.64	5879.21	
5	976686.94	5697.34	5913.51	
6	970773.43	5662.85	5948.00	
7	964825.43	5628.15	5982.70	
8	958842.73	5593.25	6017.60	
9	952825.13	5558.15	6052.70	
10	946772.43	5522.84	6088.01	
11	940684.42	5487.33	6123.52	
12	934560.90	5451.61	6159.24	67731.83
13	928401.66	5415.68	6195.17	
Continue table in this manner for all 120 months....				

## WORK-OUT OF A SAMPLE INVESTMENT ANALYSIS

The following work-out is dependent on the assumptions listed for a number of key steps:

Assumptions Embedded in the Pro-Forma Income Statement (Table 1):

1. 1% per year growth in quantity of rental units, rounded to nearest unit
2. 2% per year growth in rent fee, rounded to nearest dollar
3. non-payment is 5% of potential gross rent
4. management fee is 6% of effective gross
5. administrative wages is 6.0916% of effective gross
6. 5 year holding period
7. 1<sup>st</sup> year (2004) revenue and expense identical to appraisal projections (See Exhibit G above)

Assumptions Underlying the Amortization Schedule (Table 2):

1. purchase price \$2,000,000 at the end of 2000 or beginning of 2004
2. low loan-to-value (50%) to help lower interest rate (7%)
3. short amortization (10 years)

Assumptions for Depreciation (Table 3):

1. value of land \$4,500 per acre
2. 27.5 year straight-line depreciation

**Table 3: Depreciation**

Price of Business	2,000,000
Price of Land (per acre)	4,500
Amount of Land (acre)	121.92
Price of Land (total)	548,640
Non-Land to be Depreciated	1,451,360
Years to Depreciate	27.5
Depreciation/year	52,776.73
Depreciation During Holding Period	263,883.6364
Book After Holding Period	1,736,116

Assumptions for After-Tax Proceeds of Selling the Property (Table 4):

1. 3% price appreciation per year
2. 7% of selling price for selling expense

**Table 4: After-Tax Proceeds of Selling After 5 Years**

Initial Price	2,000,000
Forecasted Selling Price	2,318,548
less Selling Expense	-162,298
less Book Value	<u>-1,736,116</u>
Gain on Sale	420,133
Capital Gain (Selling Price - Selling Expense - Purchase Price)	156,250
Recapture Depreciation (Purchase Price - Book)	263,884
Tax on Recaptured Depreciation at 25%	65,971
Tax on Capital Gain at 15%	<u>23,437</u>
Total Tax Payable	89,408
Forecasted Selling Price	2,318,548
less Selling Expense	-162,298
less Mortgage Balance Outstanding (see next sheet)	<u>-586,371</u>
Net Proceeds Before Tax	1,569,879
less Taxes Payable	-89,408

Assumptions for After-Tax Cash Flow (Table 5):

1. 35% marginal tax rate
2. 12% discount rate

#### NPV AND IRR CALCULATION

$$\text{NPV} = -1000000 + 41945(1.12)^{-1} + 45336(1.12)^{-2} + 48667(1.12)^{-3} + 51927(1.12)^{-4} + 1535576(1.12)^{-5}$$

$$= \$12,560.43$$

$$\text{IRR} = 0.123015$$

**Table 5: Five Year After-Tax Cash Flow**

Year Into Project	1	2	3	4	5
Fiscal Year	2004	2005	2006	2007	2008
Net Operating Income	213,996	221,999	230,112	238,333	246,660
less Mortgage Interest	-67,732	-62,556	-57,006	-51,055	-44,673
less Depreciation	<u>-52,777</u>	<u>-52,777</u>	<u>-52,777</u>	<u>-52,777</u>	<u>-52,777</u>
Taxable Income	93,487	106,667	120,329	134,501	149,210
Marginal Tax Rate	0.35	0.35	0.35	0.35	0.35
Taxes	32,721	37,333	42,115	47,075	52,223
Net Operating Income	213,996	221,999	230,112	238,333	246,660
less Mortgage Payments	<u>-139,330</u>	<u>-139,330</u>	<u>-139,330</u>	<u>-139,330</u>	<u>-139,330</u>
Before Tax Cash Flow	74,666	82,669	90,782	99,002	107,329
less Taxes	<u>-32,721</u>	<u>-37,333</u>	<u>-42,115</u>	<u>-47,075</u>	<u>-52,223</u>
After Tax Cash Flow	41,945	45,336	48,667	51,927	55,106
Proceed From Sale t = 5					1,480,470
t = 0 Cash Flow =					
-1,000,000					
Total Cash Flows =					
-1,000,000	41,945	45,336	48,667	51,927	1,535,576

#### CASE RESEARCH METHODOLOGY

The case has been developed on a ‘reality’ basis. The Mountain View and Vista Mountain Mobile Home Park was owned by a relative of one of the co-authors of this case. After the recent death of the owner, the estate inherited the property and hired a real estate appraisal firm to both value and market the mobile home park. The complete appraisal report was made available to the co-authors, and the actual site of the mobile home park was visited by one of the co-authors, who interviewed an employee of the mobile home park.

All the information in the case is real data that appears in the appraisal report. Other peripheral information was obtained from interviews with the executrix or the employee of the mobile home park. With the exception of slight formatting changes to improve appearance, the exhibits to the case are the unaltered tables in the appraisal report.

The ‘reality’ approach is supported by Parkinson (2008). The Investment Analysis approach, suggested in the case to augment the appraisal report, is supported by Gitman and Joehnk (2007).

#### EPILOGUE

The actual mobile home park was sold for \$2,050,000 in 2003 to a group of physicians in the greater Charlotte area.

## AUTHOR INFORMATION

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